

In the Claims

1-15. (cancelled)

16. (currently amended) A commutator, comprising
a preformed, generally cylindrical outer cover having an axis of rotation, a jacket surface,
~~and~~ a front surface and a back surface;

electrically conductive current reversal segments fastened on said outer cover, said
segments having segmental surfaces resting on said jacket surface and having first and second
opposite ends;

bent, planar positioning members extending from said opposite ends, two of said
positioning members having lugs extending at a right angle from ends of said positioning
members remote from said segmental surface and extending over a plane of said front surface;

a stud extending from one of said ends providing a coil winding connection; and
corresponding recesses on said front and back surfaces receiving said positioning
members;

whereby said positioning members and said corresponding recesses interact for
positioning and orienting said segments on said outer cover.

17. (cancelled)

18. (previously presented) A commutator according to claim 16 wherein
said segments are fastened on said outer cover by a bonding layer between said segments
and said outer cover.

19. (previously presented) A commutator according to claim 18 wherein
said bonding layer is an adhesive layer selected from the group consisting of epoxy resin,
polyurethane resin and phenol resin.

20. (previously presented) A commutator, comprising
a preformed, generally cylindrical outer cover having an axis of rotation and a core;
a cup-shaped connector having a frontal member with a keyhole-shaped recess and
mounted on said outer cover;
electrically conductive current reversal segments fastened on said connector with said
connector mounted between said segments and said outer cover by a bonding agent; and
a projection on said core corresponding to and received in said recess to fasten said
connector to said core by a clamping action.

21. (previously presented) A commutator according to claim 20 wherein
said bonding agent is an insulating bonding layer.

22. (previously presented) A commutator according to claim 20 wherein
said bonding agent is an electrically conductive bonding layer.

23. (previously presented) A commutator according to claim 22 wherein said bonding layer is selected from the group consisting of adhesive, solder or welding material.

24. (previously presented) A commutator according to claim 20 wherein said segments comprise a carbon containing circular segmental disk fastened by a bonding agent on a surface of said frontal member of said connector remote from said outer cover, said disk being isolated into said segments by cuts in said disk extending radially relative to said axis of rotation.

25. (previously presented) A commutator according to claim 24 wherein said bonding agent is a soldered layer.

26. (previously presented) A commutator according to claim 25 wherein said soldered layer is selected from the group consisting of soft, hard and glass solder layers.

27. (previously presented) A commutator according to claim 24 wherein said bonding layer is a welded layer.

28. (previously presented) A commutator according to claim 27 wherein said welded layer is selected from the group consisting of ultrasound, friction and electrode welded layers.

29. (currently amended) A process for manufacturing a commutator, comprising the steps of:

performing a generally cylindrical outer cover;

~~delivering~~fastening a plurality of electrically conductive current reversal segments simultaneously to the outer cover;

fastening the segments to the outer cover, with segmental surfaces of the segments resting on a jacket surface of the outer cover;

positioning and orienting said segments on said outer cover by receiving bent, planar positioning members extending from opposite ends of said segments in corresponding recesses on ~~a front~~ and back surfaces of the outer cover; and

forming a stud extending from one of the ends of the segments to provide a coil winding connection.

30. (cancelled)

31. (previously presented) A process for manufacturing a commutator, comprising the steps of:

performing a generally cylindrical outer cover;

mounting a cup-shaped connector having a frontal member with a keyhole-shaped recess on the outer cover;

fastening a plurality of electrically conductive current reversal segments simultaneously on the connector with the connector being mounted between the segments and the outer cover by a bonding agent; and

receiving a projection on a core of the outer cover in the recess to fasten the connector to the core by a clamping action.

32. (previously presented) A process according to claim 31 wherein all of the segments are delivered simultaneously to the outer cover.